

Lesson 3 - 1

Objectives: Students will review extending a number pattern

Students will understand the vocabulary **term** and **corresponding terms** as it relates to patterns

Students will use patterns to generate lists of *implied* information

Do Now: Fill in the blanks by continuing the pattern

Pattern A: 6, 12, 18, 24, _____, _____, _____

Pattern B: 12, 24, 36, 48, _____, _____, _____

New Vocabulary:

Term - a number in a sequence/pattern

Corresponding Term - numbers that have the same position when comparing multiple patterns

- We can analyze corresponding terms to find additional patterns

Example 1:

Pattern A: +2....2, 4, 6, 8, 10

Pattern B: +6....6, 12, 18, 24, 30

What are the corresponding terms? What patterns exist between the two patterns (go over the x and the +).

Group Task

Cheyenne was running a lemonade stand that sold both small and large cups of lemonade. The table below shows how many large cups she sold each day.

Day	1	2	3	4	5
Large cups sold	12	24	36	48	60
Small cups sold	4				

1. What pattern do her large cup sales seem to follow? _____

On the first day, Cheyenne also sold four small cups of lemonade. On the next day, she sold four more, and so on...

2. Fill in her rest of her small cup row.

3. What patterns exist between the large cup sales and the small cup sales?

4. On what day, does Cheyenne sell **56** more large cups than small cups?

Term: a term is any number in a sequence or a pattern

Pattern A: 6, 12, 18, 24, _____, _____, _____

Corresponding Terms are numbers that have the same _____ in line when comparing two or more patterns

Pattern B: 12, 24, 36, 48, _____, _____, _____

Example 1:

Cheyenne was running a lemonade stand that sold both small and large cups of lemonade. The table below shows how many large cups she sold each day.

Day	1	2	3	4	5
Large cups sold					
Small cups sold					

1. What pattern do her large cup sales seem to follow? _____

On the first day, Cheyenne also sold four small cups of lemonade. On the next day, she sold four more, and so on...

2. Fill in her small cup row.

3. What patterns exist between the large cup sales and the small cup sales?

4. On what day, does Cheyenne sell **56** more large cups than small cups?

Name: _____

Math 5 _____

_____ October 2016

3-1 Homework

1.

Analyze the two patterns below:

Pattern 1: 12, 15, 18, 24, 27, 30

Pattern 2: 36, 45, 54, 72, 81, 90

Choose all true statements that correctly describe the relationship between the patterns.

☐ A. Each term in the second pattern is three times as much as the corresponding terms of the first pattern.

☐ B. Each term in the first pattern is three times as much as the corresponding terms of the first pattern.

☐ C. Each term in the second pattern is one third as much as the corresponding terms of the first pattern.

☐ D. Each term in the second pattern is triple the amount as the corresponding terms of the first pattern.

☐ E. Each term in the first pattern is one third as much as the corresponding terms of the second pattern.

2.

Alexa and her brother challenged each other to a sit-up contest. The table below shows how many sit-ups each did for the first four days of the challenge.

	Day 1	Day 2	Day 3	Day 4
Alexa	10	15	20	25
Alexa's brother	8	11	14	17

If this pattern continues, how many more sit-ups will Alexa be able to do than her brother on day six?

3.

What is the relationship between the corresponding terms in the table below?

Pattern 1	4	8	12	16	20
Pattern 2	8	16	24	32	40

Select the correct answer below.

☐ A. Each term in the first pattern is twice the corresponding terms of the second pattern.

☐ B. Each term in the second pattern is half of the corresponding terms of the first pattern.

☐ C. Each term in the first pattern is double the corresponding terms of the second pattern.

☐ D. Each term in the second pattern is twice the corresponding terms of the first pattern.

4.

Two rules for creating number patterns are given below. Each rule begins with a number called the *input* and creates a number called the *output*.

Rule 1

Multiply the input by 2. Then add 3 to the result to get the output.

Rule 2

Multiply the input by 3. Then add 1 to the result to get the output.

Which input and output table works for **both** rules?

☐ A.

Input	Output
2	7

☐ B.

Input	Output
3	10

☐ C.

Input	Output
4	11

☐ D.

Input	Output
5	13

5. Write the next two terms each number pattern:

1, 1.4, 1.8, 2.2, _____, _____

what is the rule? _____

100, 89, 78, 67, _____, _____

what is the rule? _____

0.12, 1.2, 12, 120, _____, _____

what is the rule? _____